REMARKS/ARGUMENTS

Favorable consideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 5, 6, 9, 13, 16 and 20 are presently pending in this application, Claim 5 having been amended and Claims 7, 8, 10-12, 14, 15 and 17-19 having been canceled by the present amendment.

In the outstanding Office Action, Claims 5-8, 10-12 and 16-19 were rejected under 35 U.S.C. §102(b) as being anticipated by Riess et al. (U.S. Patent 2,805,734); Claims 5-7, 9, 10, 13, 14, 16-18 and 20 were rejected under 35 U.S.C. §102(b) as being anticipated by Bress et al. (U.S. Patent 3,798,021); and Claims 9, 13-15 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Riess et al. in view of Bress et al.

Claim 5 has been amended herein, and this amendment is believed to be fully supported by the claims, specification and drawings as originally filed.[1] Thus, no new matter is believed to be added by this amendment. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work in a joint effort to derive a mutually agreeable solution. Applicants also respectfully request that Claims 7, 8, 10-12, 14, 15 and 17-19 be canceled without prejudice.

Briefly, Claim 5 as currently amended is directed to an amine recovery apparatus which includes a carbon dioxide absorption section, plural water washing sections and plural demisters. The carbon dioxide absorption section brings the exhaust gas into vapor-liquid contact with an absorbing solution containing an amine compound and produces decarbonated exhaust gas. The water washing sections bring the decarbonated exhaust gas into vapor-liquid contact with washing water and sequentially recover the amine compound accompanying the decarbonated exhaust gas, while the decarbonated exhaust gas passes

[1] See, for example, original Claims 7 and 8, specification, page 20, line 25, to page 21, line 11.

through the water washing sections in sequence from inlet portions to outlet portions thereof, respectively. The demisters are provided at outlets of the carbon dioxide absorption section and the water washing sections, respectively, and the demisters remove an absorbing solution mist and a washing water mist accompanying the decarbonated exhaust gas. Furthermore, the water washing sections have plural liquid reservoirs provided at the inlet portions of the water washing sections, respectively, and the liquid reservoirs reserve the washing water which is transported to the outlet portions of the water washing sections and supplied to the water washing sections, respectively. Also, the water washing sections are comprised of one in a preceding stage and one in a succeeding stage, and the washing water is withdrawn from the liquid reservoir of the one in the succeeding stage, caused to bypass the demister in the preceding stage, and supplied to the liquid reservoir of the one in the preceding stage. By providing such water washing sections, the washing water is withdrawn from the succeeding stage and supplied back to the liquid reservoir in the preceding stage, and therefore the concentration of the amine compound contained in the washing water in the preceding stage is kept lower. Moreover, the amine recovery ability can be stabilized, because the washing water is caused to bypass the demister provided in the preceding stage, and thus the pressure loss in the demister is reduced. Specifically, if the washing water withdrawn from a liquid reservoir in a succeeding stage is caused to flow through a demister and supplied to the preceding stage, the pressure loss of the demister is increased due to the washing water flowing into the demister, and the amine recovery ability may fluctuate. In such a case, the pressure loss could be, for example, 1.3 times or more compared to the case where the washing water is caused to bypass the demister in the preceding stage. On the contrary, in the device of Claim 5, the washing water withdrawn from the succeeding stage is caused to bypass the demister in the preceding stage, and then supplied to the liquid reservoir in the preceding stage. Accordingly, the washing water does not flow into the demister in the

preceding stage, and thus the amine recovery ability can be stabilized by reducing the pressure loss in the demister in the preceding stage.

Riess et al. is related to a gas treatment device, but does not teach or suggest "a plurality of water washing sections configured to bring the decarbonated exhaust gas into vapor-liquid contact with washing water and sequentially recover the amine compound accompanying the decarbonated exhaust gas, ... wherein the water washing sections have liquid reservoirs provided at the inlet portions, respectively, ..., the water washing sections comprise one in a preceding stage and one in a succeeding stage, and the washing water is withdrawn from the liquid reservoir of the one in the succeeding stage, caused to bypass the demister in the preceding stage, and supplied to the liquid reservoir of the one in the preceding stage" as recited in Claim 5 as currently amended. On the other hand, Riess et al. simply describes a gas treatment device having columns 3, 7, 17 where a lithium bromide solution is withdrawn from the column 17 and supplied to a distributing device 4 in the column 3. Thus, in the Riess et al. device, the recycled solution is directly distributed over a packing material 2, and not supplied to a liquid reservoir. Therefore, the amine recovery apparatus as recited in Claim 5 is believed to be clearly distinguishable from Riess et al.

Bress et al. is concerned with a pollution elimination device. However, Bress et al. fails to teach or suggest the water washing sections as recited in amended Claim 5. Specifically, Bress et al. shows in Fig. 1 a pollution elimination device having a tower 56 including a stack and trough structure 83 which collects a solution of water and contaminants, and an upper spray nozzle system 90 which disperses the contaminated water over an upper scrubbing zone 84. In this Bress et al. device, the solution collected in the upper scrubbing zone 84 overflows the stack and trough structure 83 and flows into an intermediate zone 73, and is not supplied to a liquid reservoir. Thus, the apparatus of Claim 5 is believed to be clearly distinguishable from Bress et al.

Because neither Riess et al. nor Bress et al. discloses the water washing sections as recited in Claim 5, even the combined teachings of these cited references are not believed to render the structure recited in Claim 5 obvious.

For the foregoing reasons, Claim 5 is believed to be allowable. Furthermore, since Claims 6, 9, 13, 16 and 20 ultimately depend from Claim 5, substantially the same arguments set forth above also apply to these dependent claims. Hence, Claims 6, 9, 13, 16 and 20 are believed to be allowable as well.

In view of the amendments and discussions presented above, Applicants respectfully submit that the present application is in condition for allowance, and an early action favorable to that effect is earnestly solicited.

Respectfully submitted,

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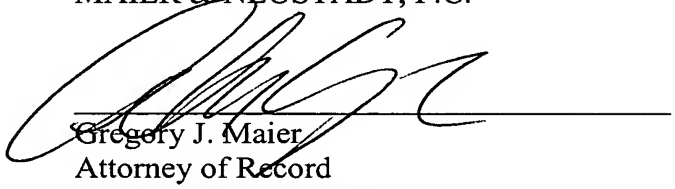

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